

## Safety Data Sheets

### 1. Identification

Product Name	: LUS-350 Clear
Order No.	: LUS35-CL-BA
Ink Ver.	: 2
General Use	: Ink jet printing ink
Recommended use	: ultraviolet ink applications
Restrictions on use	: This product is a bottle containing ink. Under normal conditions of use, the substance is released from a bottle only inside an appropriate printing system, and therefore, exposure is limited. But the liquid within the bottle is considered hazardous, and the SDS has been prepared in case of exposure to the liquid.
Product Description	: UV Inkjet Ink
SDS Number	: 037-U130598
Manufacture	
Company Name	: Mimaki Engineering Co., Ltd.
Address	: 2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN
Telephone No.	: +81-268-64-2413
Importer / Distributor Established in USA	
Company Name	: MIMAKI USA, INC.
Address	: 150 Satellite Boulevard, suite A, Suwanee, Georgia 30024, U.S.A.
Telephone No.	: +1-678-730-0170
Emergency Telephone No.	: +81-268-64-2281

### 2. Hazards Identification

#### [HCS Classification]

#### Physical Hazards

Flammable Liquids : Not classified

#### Health Hazards

Acute Toxicity – Oral : Category 4

Skin Corrosion / Irritation : Category 2

Serious Eye Damage / Irritation : Category 1

Sensitization / Skin : Category 1A

Toxic to Reproduction : Category 2

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Specific Target Organ Toxicity : Category 1 (Systemic toxicity)  
(Repeated Exposure)

### Environmental Hazards

Hazardous to the Aquatic : Category 1

Environment - Acute Hazard

Hazardous to the Aquatic : Category 1

Environment - Long Term Hazard

The above list does not include category being non-classifiable or not-applicable.

### [HCS Label Elements]

Symbol



Signal Word

Danger

### Hazard Statements

H302 Harmful if swallowed

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H318 Causes serious eye damage

H361 Suspected of damaging fertility or the unborn child

H372 Causes damage to organs through prolonged or repeated exposure (the whole body)

H410 Very toxic to aquatic life with long lasting effects

### Precautionary Statements

[Prevention]

P201 Obtain SDS (Safety Data Sheet) and printer's operation manual before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 IF exposed or concerned: Get medical advice/attention.

(P305+)P310 (IF IN EYES:)Immediately call a POISON CENTER or doctor/physician.

P314 Get medical advice/attention if you feel unwell.

(P301)+P330 (IF SWALLOWED):Rinse mouth.

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P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P362+P364 Take off contaminated clothing and wash before reuse.

P391 Collect spillage.

[Storage]

P405 Store locked up.

[Disposal]

P501 Dispose of contents/container in accordance with

local/regional/national/international regulation (to be specified).

[Statement(s) of Unknown Acute Toxicity]

41% of the mixture consists of ingredient(s) of unknown acute toxicity.

HMIS Rating (scale 0 – 4)

Health = 2

Flammability = 1

Reactivity = 1

Protective Equipment =

②	Health
①	Flammability
①	Reactivity
○	Protective Equipment

## 3. Composition / Information on Ingredients

No	Chemical Name	Wt%	CAS No.
1	Photosensitive resin	50-60	Trade Secret
2	2-Propen-1-one, 1-(4-morpholinyl)-	15-25	5117-12-4
3	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	10-20	75980-60-8
4	Photoinitiator	5-15	Trade Secret

## 4. First Aid Measures

Inhalation	: Wrap a patient with blanket or the like, immediately to settle him/her, and bring him/her to a place under fresh air. : In case breathing is getting difficult or has stopped, apply artificial respiration and seek medical care, immediately.
Eye Contact	: Wash the contamination out of eyes, even reverse side of eyelids, immediately with plenty of running water for more than 15 minutes, Seek medical attention as soon as possible.
Skin Contact	: Take off immediately all contaminated clothing and shoes, and wash contaminated parts of body and skin with water and soap, and then

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- with running water.
- : If pain remains or inflammation is caused in skins, get medical attention immediately.
  - Ingestion : If swallowed product, should not let patient vomit forcibly, because vomited articles may be a cause of such danger that it might block patient's tracheae.
  - : Should get medical attention, immediately.
  - : Rinse mouth.

### 5. Fire Fighting Measures

- Flammable Properties : Flash point : 100°C
- Extinguishing Media : Powders, bubbles, carbon dioxide, dry sand, mists of a reinforcement liquid
- Unsuitable Extinguishing Media : Water jet
- Fire Fighting Measures : Transfer a container to a safe place immediately.
- : If unable to move the container, cool it and the surroundings down by sprinkling water thereto.
- : Fire should be extinguished with the dedicated extinguishant.
- : Remove immediately all flammable materials surrounding fire.
- Specific protective equipment for firefighters : For fighting a fire, be sure to wear appropriate protectors. Do not work at the lee side of fire.

### 6. Accidental Release Measures

- Personal Precautions : Evacuate persons at the lee.
- : Do not allow persons to enter into an area where leakage is occurring by means of extending ropes around the leaked place.
- : Remove possible sources of ignition presenting nearby, immediately.
- : For fighting a fire, be sure to wear appropriate protectors.
- : Should work from the windward.
- : When the product has leaked into an interior, ventilate well the room until the leaked had been cleaned completely.
- : For fighting a fire, wear appropriate protectors such as gloves,

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	<p>masks, aprons and goggles.</p> <ul style="list-style-type: none"><li>: Collect leakage into a sealable container, and the container should be transferred to a safe place.</li><li>: Articles contaminated with product and the wastes must be disposed in accordance with the related statutes.</li><li>: Collect the liquid being spilled over by means of a tool made of a material which does not spark due to impact or friction.</li><li>: Keep out, except persons who concerned.</li><li>: Do not touch leaked liquid and/or broken container without wearing appropriate protectors.</li><li>: Make sure to ventilate a closed room prior to entering thereto.</li><li>: Do not drain waste wash into a river without treatment.</li></ul>
Environmental Precautions	<ul style="list-style-type: none"><li>: Collecting of spilled-over-product and water used for washing it must be done by absorbing them with dry sand, soil, wiping rags or any other unflammable materials.</li><li>: When a great amount of product is leaked, block the leakage by constructing banks there around with soil.</li><li>: Do not release into the environment.</li></ul>
Methods for cleaning up	<ul style="list-style-type: none"><li>: Leaked product should be blocked with sand and soil, and lead the stream of the leakage toward a safe place.</li><li>: Collect spilt-over product as much as possible into a sealable container.</li><li>: Recover spilled portion of product, and wash out the spoiled floor with sufficient water using dispersing agent such as neutral detergent.</li></ul>

### 7. Handling and Storage

Precautions for Safe Handling	<ul style="list-style-type: none"><li>: Keep fire away from the workplace where product is handled. Exhaust ventilation system for the workplace should be operated properly.</li><li>: Put on appropriate protective wears and implements so as not to inhale chemicals and cause contact with eyes, skin and/or clothing.</li><li>: Close container tightly every time after use.</li><li>: Prevent diffusion of volatile as much as possible, so that the concentration of volatile in a working environment can be less than</li></ul>
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	<p>the concentration to be controlled.</p> <ul style="list-style-type: none"><li>: Cloth piece used for wiping product should be burn or discarded immediately.</li><li>: Avoid contact with skins, and do not inhale or swallow product accidentally.</li><li>: Pay attention to fire. Ventilate the operation area thoroughly, and handle the product in a place without exposure to direct sunlight nor ultraviolet ray.</li><li>: When working suit has been contaminated with product, clean it out and replaced with a new working suit. Do not wash contaminated clothing at home; clothing should be professionally laundered. Prevent skins from being touched with the contaminated part for a long time. Dispose of contaminated shoes, belts and other leather items in accordance with any applicable regulations.</li><li>: Wash hands and gargle thoroughly after handling.</li><li>: Make sure not to handle product without completing to read and understanding the safety precaution.</li></ul>
Technical measures	<ul style="list-style-type: none"><li>: Be sure to ground apparatuses, equipments, etc. for securing to prevent generation of static electricity.</li><li>: Take measures such as wearing electroconductive working clothes, electroconductive working shoes, and so on.</li></ul>
local evacuation, entire evacuation	<ul style="list-style-type: none"><li>: Refer to 8. Exposure Controls / Personal Protection.</li></ul>
Storage	<ul style="list-style-type: none"><li>: Containers should be tightly closed, made distinguishable from the others, and stored in a dark, cool well-ventilated place.</li><li>: Keep away from heat source, such as boilers, and combustible materials.</li><li>: Never store in the same place where oxidizer and organic peroxides are stored.</li><li>: This product must be stored in a warehouse specially used for dangerous chemicals conforming to Fire Service Act.</li><li>: Product must be stored in an original container or drum.</li><li>: Store product under lock and key.</li><li>: In order to prevent from being polymerized with heat or ultraviolet rays, charge into a sealable containers and store in a designated well-ventilated, dark and cool place.</li></ul>

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### 8. Exposure Controls / Personal Protection

This product is a bottle containing ink. Under normal conditions of use, the substance is released from a bottle only inside an appropriate printing system, and therefore, exposure is limited. But the liquid within the bottle is considered hazardous.

Please prepare the following protective equipment in case of handling damaged bottle, setting an ink bottle to the printer, handling a waste bottle and being exposed to liquid.

Exposure Limit Values : Not available

#### Exposure Controls

##### Occupational Exposure Controls

Equipment : For indoor operations, make sure to seal up the source of leakage, or install a ventilation system for workplace as a whole. Upon necessity, install on-the-spot ventilation.

#### Individual Protection Measures, such as Personal Protective Equipment

This product contains the substance which is regulated under TSCA SNUR (Significant New Use Rule) codified at 40 CFR § 721.5185 2-Propen-1-one, 1-(4-morpholinyl)-.

Respiratory Protection : Wear the respirator against toxic gas.



Follow the OSHA respirator regulations found in 29 CFR 1910.134.

Respiratory protection approved by NIOSH

- Category 19C Type C

supplied-air respirator operated in pressure demand

- Category 21C

air-purifying respirator equipped

- Category 23C

air-purifying respirator equipped

Glove

: Gloves and other dermal protection may not be used for a time period longer than they are actually tested and must be replaced at the end of each work shift.

Recommendations



Gloves

- Safety 4/4H EVOH/PE laminate

- Ansell Edmont Neoprene number 865

- Solvex Nitrile Rubber number 275

Eye /Face

: Chemical goggles or equivalent eye protection.

Protection

Tightly fitting safety goggles.

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It is recommended to install an eyewash station near the printer, for emergency use.

Skin Protection

: Full body chemical protective clothing. Clothing which covers any other exposed areas of the arms, legs, and torso.



Wear appropriate protective gloves and clothing to prevent skin exposure.

Appropriate sanitary requirement

: A cartridge used for a respirator must be renewed either regularly or appropriately corresponding to breakthrough time of use.

Environmental Exposure Controls

: This product contains the substance which is regulated to release to water under SNUR.

### 9. Physical and Chemical Properties

Appearance	- Physical State	: liquid
	- Color	: light yellow transparent
Odor		: Not available
pH		: Not available
Boiling Point / Boiling Range		: Not available
Melting Point / Melting Range		: Not available
Flash Point		: 100°C
Autogenous ignition temperature		: Not available
Decomposition temperature		: Not available
Upper / Lower Flammability or Explosive Limits		: Not available
Vapor Pressure		: Not available
Relative Density		: Not available
Solubility		: insoluble
Viscosity		: Not available
Vapor Density		: Not available
VOC		: <1%

### 10. Stability and Reactivity



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Stability	: Physically stable under an ambient temperature or lower. : Polymerization may be caused due to heat or ultraviolet rays.
Conditions to Avoid	: If it is heated, the container could explode to be broken down. Do not subject the container to static electricity. : Keep away from high temperature and heating.
Dangerous substances mixed touch	: This product should not mix with strong oxidants and high-pressure gases. : Contact with heat, light, strong acids, peroxides, oxidizing agents, alkalis or radical initiator should be avoided.
Hazardous Reactions / Decomposition Products	: Toxic gases such as CO and NO <sub>x</sub> will be generated during combustion.

### 11. Toxicological Information

This product is expected to have low hazards in case of normal use. Uncured ink is considered hazardous.

Acute Toxicity	: No information available
Information on Likely Routes of Exposure	
Inhalation	: irritation, difficulty breathing.
Skin Contact	: irritation, allergic skin reaction.
Eye Contact	: eye damage.
Ingestion	: nausea, vomiting, headache, dizziness, drowsiness, stomach pain.
Immediate Effects	: skin irritation, eye irritation, allergic skin reaction.
Delayed Effects	: allergic skin reaction, reproductive effects, systemic toxicity.
Irritation/Corrosivity	: skin irritation, eye damage.
Data	
Respiratory	: No information available for the product.
Sensitization	
Dermal Sensitization	: Available data characterizes components of this product as dermal sensitization hazards.
Component Carcinogenicity	: None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA
Germ Cell Mutagenicity	: No information available for the product.
Tumorigenic Data	: No data available
Reproductive Toxicity	: Available data characterizes components of this product as reproductive hazards.
Specific Target Organ	: No target organs identified.

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Toxicity - Single

Exposure

Specific Target Organ : body.

Toxicity - Repeated

Exposure

Aspiration hazard : Not expected to be an aspiration hazard.

Medical Conditions : No information available for the product.

Aggravated by Exposure

### 12. Ecological Information

Handling is noted because it might influence the environment when leaking and abandoning it.

Especially, note that the product doesn't flow directly to ground, the river, and the drain ditch.

Ecotoxicity : Hazardous to the Aquatic Environment - Acute Hazard

Category 1

: Hazardous to the Aquatic Environment - Long Term Hazard

Category 1

Persistence and : No information available

Degradability

Bioaccumulative : No information available

Potential

Other Adverse Effects : No information available

### 13. Disposal Considerations

: Comply with all USA, national and local regulations.

: Wear the appropriate protective equipment during disposal.

: Fully cured printed matter can be disposed of as ordinary office trash.

However, disposal of liquid and uncured waste, cleaning cloths, gloves, and empty material containers must be done in accordance with local laws and regulations. They are classified as hazardous industrial waste.

: When this product is subjected to incineration, it must be done in accordance with the standard for disposing Industrial Waste.

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: Use industrial waste disposal companies who is authorized by local municipal government for the disposal.

Do not dump this product into sewers, on the ground or into any body of water.

### 14. Transport Information

Check a thing without a leak in a container.

Perform prevention of collapse of cargo surely.

#### US DOT Information

Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Hazard Class : 9

UN/NA # : UN3082

Packing Group : III

Required Label(s) : 9

International Bulk : This material does not contain any chemicals required by the IBC

Chemical Code Code to be identified as dangerous chemicals in bulk.

Remarks : Single or inner packaging less than 5 L (liquid) or 5 kg net (solids) is excepted from Dangerous Goods regulations.

Refer to ICAO/IATA A197, IMDG 2.10.2.7, ADR SP 375.

### 15. Regulatory Information

#### US Federal regulations

TSCA Status : TSCA Section 5 Significant New Use Rule Regulation (SNUR)

2-Propen-1-one, 1-(4-morpholinyl)-

: TSCA Section 12(b) Export Notification Requirements

2-Propen-1-one, 1-(4-morpholinyl)-

Ingredient	Section 302 EHS TPQ	Section 304 EHS RQ	CERCLA RQ	Section 313	RCRA Code	CAA 112(r) TQ
None	No	No	No	No	No	No

OSHA: Hazard Communication Rule, 29 CFR, 1910.1200.

EPCRA (Emergency Planning and Community Right-to-Know Act): Section 302: Extremely Hazardous Substances(EHS), Threshold Planning Quantity (TPQ) in 40 CFR 355; EPCRA Section 304 gives EHS reportable quantities

(RQ); Section 313 Toxic Chemicals, subject to annual reporting (40 CFR 372).

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CERCLA (Comprehensive Environmental Response Compensation and Liability Act), Hazardous Substances: accidental release of substances above the Reportable Quantity (RQ) listed requires reporting; local reporting requirements may be in force.

RCRA Hazardous Wastes: RCRA P and U lists (40 CFR 261.33).

CAA Substances for Accidental Release Prevention: Clean Air Act 112 (r), Hazardous Air Pollutants; Threshold Quantities (TQ).

SARA Section 311/312 : Acute Health: Yes Chronic Health: Yes Fire: No Pressure: No  
(40 CFR 370 Subparts B Reactivity: No  
and C) 2016 reporting  
categories

SARA Section 311/312 : Acute toxicity; Reproductive Toxicity; Skin Corrosion/Irritation;  
(40 CFR 370 Subparts B Respiratory/Skin Sensitization; Serious Eye Damage/Eye Irritation;  
and C) 2017 reporting Specific Target Organ Toxicity  
categories

U.S. State Regulations : None of this product's components are listed on the state lists from  
CA, MA, MN, NJ or PA.

California Proposition : Not listed under California Proposition 65.  
65

Canada Regulations

Canadian WHMIS : The components of this product are either not listed on the IDL or are  
Ingredient Disclosure present below the threshold limit listed on the IDL.  
List (IDL)

### 16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.

It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.

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